II.B.2.N.a. Cold-deciduous woodland

II.B.2.N.a.402. ELAEAGNUS ANGUSTIFOLIA SEMI-NATURAL WOODLAND ALLIANCE

Russian-olive Semi-natural Woodland Alliance

ELAEAGNUS ANGUSTIFOLIA SEMI-NATURAL WOODLAND

Russian-olive Semi-natural Woodland

ELEMENT CONCEPT

GLOBAL SUMMARY: This widespread Russian-olive woodland type is found in the northern Great Plains, Utah, and probably throughout much of the western United States and adjacent Canada. It is a naturalized type that has been widely planted in hedgerows for windbreaks. It has since spread to a variety of native habitats, particularly more mesic ones, such as near streams and rivers. The vegetation is dominated by *Elaeagnus angustifolia*. In Badlands National Park, this type occupies a portion of shoreline along the White River, upstream of a highway bridge. In Ouray National Wildlife Refuge in Utah these woodlands are found in the floodplain along the Green River and in upland basins and drainages. Stands tend to be small and linear, with canopy cover varying from 40% to well over 80%. The vegetation is dominated by the tree *Elaeagnus angustifolia* with a variety of native and introduced species in the shrub and herbaceous layers. Associated species have not been thoroughly characterized, but can include the shrubs *Salix exigua, Tamarix ramosissima,* and *Amorpha fruticosa,* as well as a variety of herbaceous species, many of them introduced, such as*Pascopyrum smithii, Sporobolus airoides, Distichlis spicata*, *Hordeum jubatum, Lepidium latifolium, Descurainia sophia*, and *Bassia scoparia (= Kochia scoparia)*.

ENVIRONMENTAL DESCRIPTION

USFWS Wetland System: Not Applicable

Zion National Park Environment: This association was not sampled at Zion NP, but occurred in the environs and was mapped.

Global Environment: This type is naturalized, probably spreading as a result of being widely planted in hedgerows for windbreaks. It has spread to a variety of native habitats, particularly more mesic ones, such as near streams and rivers. In Badlands National Park, this type occupies a portion of shoreline along the White River, upstream of a highway bridge (Von Loh et al. 1999). In Ouray National Wildlife Refuge in Utah these woodlands are found in the floodplain along the Green River and in upland basins and drainages (Von Loh et al. 2002). Stands tend to be small and linear. Adjacent vegetation includes other riparian shrublands and wetlands dominated by *Salix exigua* or *Schoenoplectus* spp. Upland vegetation is variable.

VEGETATION DESCRIPTION

Zion National Park Vegetation: This association was not sampled at Zion NP, but occurred in the environs and was mapped.

Global Vegetation: The vegetation is dominated by the tree *Elaeagnus angustifolia* with a variety of native and introduced species in the shrub and herbaceous layers. Associated species have not been characterized. In a stand in Badlands National Park of South Dakota, *Elaeagnus angustifolia* is dominant. Canopy closure approaches 40-50%, about equal to the tall-shrub cover provided by *Salix exigua*. *Amorpha fruticosa* and *Pascopyrum smithii* make up the short-shrub and herbaceous cover, which are less than 10%. At Ouray National Wildlife Refuge in Utah, tree canopies were denser to (80% cover) and had remnant *Populus fremontii* trees (to 10% cover). Other than a few native grasses (*Sporobolus airoides, Distichlis spicata*, and *Hordeum jubatum*) and *Atriplex patula* in the herbaceous layer, the understory was dominated by introduced species, both in the moderately dense to dense tall-shrub layer (*Tamarix ramosissima*) and in the herbaceous layer (*Lepidium latifolium, Descurainia sophia*, and *Bassia scoparia* (= *Kochia scoparia*) (Von Loh et al. 2002).

Global Dynamics: *Elaeagnus angustifolia* has been planted widely across the western U.S. in windbreaks and as an ornamental. This tree species has bird-dispersed seeds and has invaded riparian woodlands extensively, replacing the native tree species, especially where flood control efforts limit regeneration of native trees such as *Populus deltoides* and *Populus fremontii*.

MOST ABUNDANT SPECIES

Zion National Park

Stratum	Species
TREE CANOPY	*Elaeagnus angustifolia*
TALL SHRUB	*Tamarix ramosissima*
GRAMINOID	*Bromus rigidus, Poa pratensis*

Global

Stratum	Species
TREE CANOPY	*Elaeagnus angustifolia*
TALL SHRUB	*Tamarix ramosissima, Salix exigua*
SHORT SHRUB	*Amorpha fruticosa*
GRAMINOID	*Pascopyrum smithii, Bromus inermis, Poa pratensis*

CHARACTERISTIC SPECIES

Zion National Park

Stratum	Species
TREE CANOPY	*Elaeagnus angustifolia*

Global

Stratum	Species
TREE CANOPY	*Elaeagnus angustifolia*

OTHER NOTEWORTHY SPECIES

Global

Stratum	Species
GRAMINOID	*Bromus tectorum*

GLOBAL SIMILAR ASSOCIATIONS:

- Populus fremontii / Salix exigua Forest (CEGL000666)
- Populus deltoides - (Salix amygdaloides) / Salix (exigua, interior) Woodland (CEGL000659)
- Populus deltoides ssp. wislizeni / Baccharis sarothroides Forest (CEGL000663)

GLOBAL STATUS AND CLASSIFICATION COMMENTS

Global Conservation Status Rank: GW.

Global Comments: *Populus deltoides*- and *Populus fremontii*-dominated associations may have significant cover of *Elaeagnus angustifolia* in the tree canopy, but are generally considered native woodlands until *Elaeagnus angustifolia* comprises over 80-90% of the tree cover. Some stands have a nearly closed tree canopy (80% cover), or may have significant gaps in the tree canopy.

ELEMENT DISTRIBUTION

Zion National Park Range: This was not sampled at Zion NP, but occurred in the environs and was mapped. It likely occurs in lowlands along stream channels and in disturbed riparian forest in canyons.

Global Range: This widespread Russian-olive woodland type is reported from the northern Great Plains, Utah, and probably occurs throughout much of the western United States and adjacent Canada along rivers and streams where it replaces the native *Populus* spp.- and *Acer negundo*-dominated forests and woodlands.

Nations: US
States/Provinces: ND SD UT

ELEMENT SOURCES

Zion National Park Inventory Notes: Plots: None
Classification Confidence: 3 **Identifier:** CEGL005269
References: Great Plains Flora Association 1986, Von Loh et al. 1999, Von Loh et al. 2002